

AMENDMENTS TO THE CLAIMS

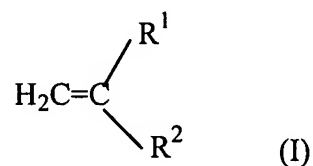
1. (Original) Core-shell nanoparticles comprising:

(a) a core which comprises a water insoluble polymer or copolymer, and

(b) a shell which comprises a hydrophilic polymer or copolymer;

said nanoparticles being obtainable by emulsion polymerization of a mixture comprising, in an aqueous solution, at least one water-insoluble styrenic, acrylic or methacrylic monomer and:

(i) a monomer of formula (I):



wherein

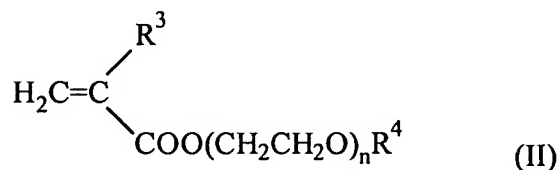
R^1 represents hydrogen or methyl, and

R^2 represents $-\text{COOAOH}$, $-\text{COO-A-NR}^9\text{R}^{10}$ or $-\text{COO-A-N}^+\text{R}^9\text{R}^{10}\text{R}^{11}\text{X}^-$, in which A represents

C_{1-20} alkylene, R^9 , R^{10} and R^{11} each independently represent hydrogen or C_{1-20} alkyl and X

represents halogen, sulphate, sulphonate or perchlorate, and

a water-soluble polymer of formula (II)



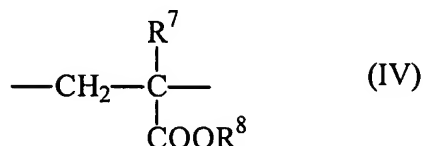
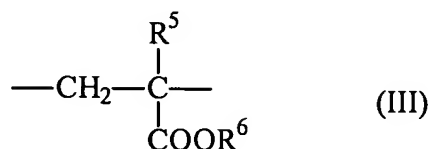
wherein

R^3 represents hydrogen or methyl,

R^4 represents hydrogen or C_{1-20} alkyl, and

n is an integer such that the polymer of formula (I) has a number-average molecular weight of at least 1000; or

(ii) a hydrophilic copolymer which comprises repeating units of formulae (III) and (IV):



wherein

R^5 and R^7 each independently represent hydrogen or methyl,

R^6 represents hydrogen, $-\text{A}-\text{NR}^9\text{R}^{10}$ or $-\text{A}-\text{N}^+\text{R}^9\text{R}^{10}\text{R}^{11}\text{X}^-$, in which A represents C_{1-20} alkylene, R^9 , R^{10} and R^{11} each independently represent hydrogen or C_{1-20} alkyl and X represents halogen, sulphate, sulphonate or perchlorate and

R^8 represents C_{1-10} alkyl.

2. (Original) Nanoparticles according to claim 1 wherein the core comprises poly(C_{1-10} alkyl (meth)acrylate), polystyrene or a copolymer formed from monomers which are acrylic, methacrylic or styrenic monomers.

3. (Currently Amended) Nanoparticles according to claim 1 ~~or 2~~ wherein the core comprises poly(methyl methacrylate).

4. (Currently Amended) Nanoparticles according to ~~any one of claims~~ claim 1 ~~to 3~~ which are obtainable by emulsion polymerization of methyl methacrylate in an aqueous solution comprising poly(ethylene glycol) methyl ether methacrylate and 2-(dimethyloctyl) ammonium ethyl methacrylate bromine.

5. (Currently Amended) Nanoparticles according to ~~any one of claims~~ claim 1 to 3 which are obtainable by emulsion polymerization of methyl methacrylate in an aqueous solution comprising a copolymer of methacrylic acid and ethyl acrylate.

6. (Currently Amended) Nanoparticles according to ~~any one of claims~~ claim 1 to 3 which are obtainable by emulsion polymerization of methyl methacrylate in an aqueous solution comprising a copolymer of 2-(dimethylamino)ethyl methacrylate and C₁₋₆ alkyl methacrylate.

7. (Currently Amended) Nanoparticles according to ~~any one of the preceding claims~~ claim 1 which have a number-average particle diameter measured by scanning electron microscopy of from 50 to 1000 nm.

8. (Currently Amended) Nanoparticles according to ~~any one of the preceding claims~~ claim 1 which further comprise a fluorescent chromophore.

9. (Currently Amended) A process for preparing nanoparticles according to ~~any one of the preceding claims~~ claim 1, said process comprising emulsion polymerization of a water-insoluble monomer in an aqueous solution comprising:

- (i) a monomer of formula (I) and a polymer of formula (II), or
- (ii) a hydrophilic copolymer which comprises repeating units of formulae (III) and (IV).

10. (Currently Amended) Nanoparticles according to ~~any one of claims~~ claim 1 to 8 which further comprise at least one pharmacologically active agent adsorbed at the surface of the nanoparticles.

11. (Original) Nanoparticles according to claim 10 wherein the pharmacologically active agent is a disease-associated antigen.

12. (Original) Nanoparticles according to claim 11 wherein the antigen is a

deoxyribonucleic acid, ribonucleic acid, oligodeoxynucleotide, oligonucleotide or protein.

13. (Currently Amended) Nanoparticles according to claim 11 ~~or 12~~ wherein the antigen is a microbial antigen or a cancer-associated antigen.

14. (Currently Amended) Nanoparticles according to ~~any one of claims~~ claim 11 to 13 wherein the antigen is a human immunodeficiency virus-1 (HIV-1) antigen.

15. (Original) Nanoparticles according to claim 14 wherein the antigen is HIV-1 Tat protein or an immunogenic fragment thereof.

16. (Currently Amended) A process for preparing nanoparticles which comprise at least one pharmacologically active agent adsorbed at the surface of the nanoparticles according to any one of claims 10 to 15, said process comprising adsorbing a pharmacologically active agent at the surface of nanoparticles according to claim 1 ~~any one of claims 1 to 8~~.

17. (Currently Amended) A pharmaceutical composition comprising nanoparticles according to ~~any one of claims~~ claim 10 to 15 and a pharmaceutically acceptable excipient.

18. (Currently Amended) A method of diagnosing, treating or preventing a condition in a subject said method comprising administering an effective amount of nanoparticles according to ~~any one of claims~~ claim 10 to 15 ~~or a pharmaceutical composition according to claim 17~~ to a subject in need of such treatment.

19. (Currently Amended) A method according to claim 18, wherein the pharmacologically active agent is a disease-associated antigen and the nanoparticles are administered to the subject to generate ~~of generating~~ an immune response in ~~the~~ a subject, ~~said method comprising administering nanoparticles according to any one of claims 11 to 15 in a therapeutically effective amount.~~

20. (Currently Amended) A method according to claim 18, wherein the antigen is a human immunodeficiency virus-1 (HIV-1) antigen and the nanoparticles are administered to the subject to prevent ~~of preventing~~ or treat ~~treating~~ HIV infection or AIDS, ~~said method comprising administering nanoparticles according to any one of claims 11 to 15 in a therapeutically effective amount.~~

21-23. (Canceled).